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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/305,240 05/04/99 SHIM

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EXAMINER

NADAV, O

ART UNIT

PAPER NUMBER

2811

DATE MAILED:

07/19/01

Please find below and/or attached an Office communication concerning this application or  
proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/305,240

Applicant(s)  
Shim et al.

Examiner  
ORI NADAV

Art Unit  
2811



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 11, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- 4a) Of the above, claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-7 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramanian et al. (5,668,021) in view of Admitted Prior Art (APA).

Subramanian et al. teach in figure 7 a transistor for use as a pull up transistor with a Vdd terminal and an I/O pad of a semiconductor device comprising: a semiconductor substrate 10 of a first conductivity type, source and drain regions 28, 30, 34, 36 of a second conductivity type formed in the substrate and defining a channel region therebetween, an impurity implantation region 24 of impurities of a second conductivity type in a first sector of the channel region, the first sector does not reach either one of the source and drain regions and is separated therefrom by equal distances, wherein the channel region exclusive of the first sector has a uniform doping concentration of the first conductivity type, a gate insulating layer 14 on the substrate and over at least a portion of the impurity implantation region and over at least a portion of an area adjacent the impurity implantation region, and a gate 26 on the gate insulating layer

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over at least a portion of the first sector and of a region adjacent to the first sector, wherein the first sector has a narrower line width than a line width of the gate and the first portion is in a predetermined ratio with the area adjacent to the first portion.

Subramanian et al. do not teach using the transistor as a pull up transistor in which one of the source and drain regions being coupled with the I/O pad and the other one being coupled with the Vdd terminal.

APA teaches in figure 1 a pull up transistor, wherein one of the source and drain regions being coupled with the I/O pad and the other one being coupled with the Vdd terminal.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Subramanian's transistor as a pull up transistor, in which one of the source and drain regions being coupled with the I/O pad and the other one being coupled with the Vdd terminal, because it is conventional to connect one of the source and drain regions being coupled with the I/O pad and the other one being coupled with the Vdd terminal in a pull up transistor in order to operate the transistor in its intended use as an enhancement mode transistor.

Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure

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is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 9, figure 7 of Subramanian et al. depicts a first sector being separated from the source and drain regions by substantially equal distances.

### ***Response to Arguments***

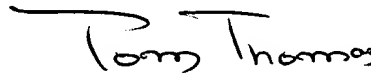
3. Applicant's arguments with respect to claims 5-7 and 9 have been considered but are moot in view of the new ground(s) of rejection.

**Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.**

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Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink that reads "Tom Thomas". The signature is written in a cursive style with a horizontal line above the first name.

TOM THOMAS  
SUPERVISORY PATENT EXAMINER

Ori Nadav

July 17, 2001